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ABSTRACT

A study investigated the attitudes and beliefs of three groups of third- and fourth-grade classroom teachers (special education pull-out, bilingual credentialed, and bilingual waivered, n=18 per group) concerning the reading assessment of Latino language minority students. Data were gathered from semi-structured interviews, a written questionnaire, classroom observation, and analysis of documents and classroom products related to assessment. Results show, in general, a discrepancy between the beliefs of these teachers and those underlying many of the new educational initiatives in assessment and instruction. In addition, clear differences between the groups were found, with the special education teachers' attitudes most removed from these pedagogical developments. Variance in teacher beliefs and practices occurred both within groups and within individuals, with few cases in which beliefs and practices were entirely consistent. These findings imply that educational reform will require not only a change in practices, but also adoption of a fundamentally different paradigmatic belief system. Contains 83 references. (MSE)

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ED 376 721

TEACHERS' BELIEFS ABOUT READING ASSESSMENT WITH LATINO LANGUAGE MINORITY STUDENTS

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Teachers' Beliefs about Reading Assessment with Latino Language Minority Students

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Teachers' Beliefs about Reading Assessment with Latino Language Minority Students

Abstract

Because of the psychometric bias in much of the work on assessment, much attention has been focused on the technical aspects of assessment to the exclusion of other aspects of the overall literacy context. In particular, little attention has been paid to test users, especially in classroom settings. To date, little is known about teachers' beliefs and everyday practices regarding assessment. There is even less known about how various factors such as professional background might influence these beliefs and practices. This information is important, especially in light of the changing paradigms impacting educational practice and the increasing linguistic and cultural diversity in many classrooms.

Given this knowledge gap, the present study investigated teachers' belief systems or mental models and everyday practices regarding the nature, funtion, and uses of assessment with a special focus on reading with Latino language minority students. These mental models can be seen as integrated systems of concepts, scripts, and scenes which function to lend meaning to the action systems of classrooms.

Three groups of teachers (special education pull-out, bilingual credentialed, and bilingual waivered) of Latino language minority students were included in the study (n = 18 per group). Multiple methods were used in the investigation, including semi-structured interviews, a written questionnaire, classroom observation, and analysis of documents and classroom products related to assessment.

It was found that there were clear differences among the groups with the special education teachers most unlike the other two groups. In addition, there was a general discrepancy between the belief systems of a significant proportion of the teachers studied and the more constructivist and socioculturally-based principles underlying many recent theoretical and reform-based initiatives. The results are discussed in the context of both educational reform and teacher training efforts.

INTRODUCTION

One result of current dissatisfaction with traditional school-based testing has been the push, especially at the national level, for alternative forms of assessment (James, 1987; National Commission on Excellence in Education, 1983; Resnick, 1987; Resnick & Resnick, 1992). Briefly, the emphasis has shifted from insuring mastery of isolated decontextualized facts through repetitive drill to teaching and learning as an integrated, socially embedded process of meaning-making. For example, a recent policy document (California Department of Education, 1992) suggests the following:

> Authentic assessment practices . . . are likely to differ from past ones at the elementary level in some surprising ways. They are likely to include integrated reading-writing assessments; the evaluation of student writings or of other work samples collected in portfolios; investigations conducted by small groups of students; and the staging of hands-on problem-solving activities. They are likely to require both on-demand performance from students as well as performances completed over extended periods of time. Questions on authentic tests will not be jealously guarded secrets; they may be known well ahead of time. Speed of response will seldom be at a premium in the assessment instruments of the 1990's; students may demonstrate their scholastic achievement . . . over an entire term. And often, students who consult one another over their answers won't be "cheating"; they will be collaborating in much the same way that professionals in the world of business are expected to do. (p. 67)

It is clear that traditional methods of monitoring learning and measuring educational change do not align well with this relatively recent constructivist emphasis. Traditional assessment has been criticized for narrowness of content, lack of match to instruction, neglect of higher order thinking in favor of rote learning, and the restrictiveness of multiple choice and other standardized formats (Baker, 1989; Herman, 1989; Shepard, 1990). Others claim that traditional testing trivializes instruction, distorts curriculum, and expropriates valuable teaching time (Bracey, 1989; Dorr-Bremme & Herman, 1986; Romberg, Zarinnia, & Williams, 1989; Smith, Edelsky, Draper, Rottenberg, & Cherland, 1991; Stake, 1988).

However, there is increasing realization that reform involves much more than changing practices. Successful reform must involve understanding and taking into account the underlying paradigmatic belief systems of local users, that is, teachers (Hunsaker & Johnston, 1992). Tharp and Gallimore (1988) have described in great detail, in the case study of a particular teacher, how long-term and challenging the change process can be.

Currently, there is a surge of interest in the area of teacher belief systems (Pajares, 1992). However, at present, there is little information on teacher beliefs related to assessment in general and assessment of language minority students in particular. The purpose of the present study, therefore, was to investigate this issue, with a particular focus in the area of reading. It was hypothesized that teachers' beliefs would be influenced by professional training as well as by other factors, such as folk theories about testing and second language learning, and related factors.

Current Perspectives on Teacher Beliefs

There is increasing recognition that the beliefs that individuals hold are the best indicators of the decisions that they make during the course of everyday life (Bandura, 1986). This focus on belief systems has been usefully exploited by educational researchers trying to understand the nature of teaching and learning in classrooms. There is a growing amount of literature that suggests that the beliefs that teachers hold impact both their perceptions and judgments, and that these in turn affect their behavior in the classroom. Further, these belief systems are an essential part of improving both professional preparation and later, teaching effectiveness (Ashton, 1990; Ashton & Webb, 1986; Brookhart & Freeman, 1992; Buchmann, 1984; Clark, 1988; Cole, 1989; Dinham & Stritter, 1986; Eisenhart, Shrum, Harding, & Cuthbert, 1988; Fenstermacher, 1986; Goodman, 1988; Nespor, 1987; Weinstein, 1988, 1989; Wilson, 1990).

One of the difficulties in examining teacher beliefs, in addition to the fact that they are not directly observable, is that there is some disagreement over the differences between beliefs and knowledge (Clandinin & Connelly, 1987). In the cognitive science literature, there is a significant amount of research on individual belief systems, or "mental models," that is, integrated systems of concepts, scripts, and scenes that lend meaning to the action systems of classrooms. (Gentner & Gentner, 1983; Mayer, Dyck, & Cook, 1984). In the educational literature on teachers, there are a variety of terms for this phenomenon. Clark (1988) referred to it as preconceptions or implicit theories, defined as " eclectic aggregations of cause-effect propositions from many sources, rules of thumb, generalizations drawn from personal experience, beliefs, values, biases, and prejudices" (p. 5).

Following the work of Deford (1985) and Richardson, Anders, Tidwelll, & Lloyd (1991), a constructivist perspective on teacher beliefs was adopted for this study. In this perspective, teachers are seen as knowing, meaning-making beings, and this knowledge and meaning influence their actions. A definition compatible with this sociocultural approach was developed by Tabachnick & Zeichner (1984). Preferring the term *teacher perspectives*, they defined them as " a reflective, socially defined interpretation of experience that serves as a basis for subsequent action . . . a combination of beliefs, intentions, interpretations, and behavior that interact continually" (Clark & Peterson, 1986, p. 287). Unlike more general ideological beliefs which can be decontextualized and abstracted, these are seen as situation-specific and action oriented and include both the beliefs teachers have about their work (goals, purposes, conceptions of children, curriculum) and the "ways in which they [give] meaning to these beliefs by their behavior in the classroom" (ibid, p. 28). Although we will use the more commonly understood term *beliefs*, we adopted the definition above.

It is unavoidable that belief systems, like all cognitive processes, must be inferred from behavior. Following earlier work on teacher beliefs (Eisenhart, Shrum, Harding, & Cuthbert, 1988; Fenstermacher, 1986; Smith & Shepard, 1988), beliefs were defined as propositions accepted as true. Within this framework, beliefs consist of one or more assertions held by informants and realized in the natural language as declarative sentences.

The literature suggests that care must be taken in how these beliefs are investigated. For example, earlier work (Duffy, 1981; Hoffman & Kugle, 1982) has been criticized on methodological grounds because it relied exclusively on paper-and-pencil tasks (Hoffman & Kugle, 1982; Richardson, Anders, Tidwell & Lloyd, 1991). These critics suggest that paper-and-pencil tasks, when used in isolation, do not validly measure beliefs. Moreover, this work suggests that it is important to explore these beliefs not only in terms of publicly declared general propositions, but in terms of more private or unrecognized beliefs as manifested in examples of specific activities or situations.

Recent Trends in Reading and Literacy

A major focus of the present study on teachers' beliefs about assessment was literacy, more specifically reading[1]. A cursory review of the literature, as well as interactions with practitioners, suggested two things. First, there is no consensus, and in fact significant disagreement, over theoretical orientations or approaches to reading. Second, there appear to be two loosely organized but opposing views to reading (and by extension, to literacy in general). One perspective suggests that reading is a skill, best taught in a prespecified, hierarchical fashion with a primary emphasis on fluency and decoding, teacher control of the curriculum, and best measured through decontextualized standardized assessments. The opposing viewpoint suggests that reading is an interactional process between the reader and him or herself, embedded within a specific social context, carried out for authentic purposes, and best monitored through performance on authentic activities over time (Hiebert, 1991). These opposing dimensions have been nicely captured by Poplin (1988a, 1988b) in her discussion of reductionist and holistic

approaches to teaching, learning, and literacy. This same continuum is also reflected in Cummins' (1989) description of transmission and interactive/experiential pedagogical approaches, specifically as they apply to educational practices related to literacy. Opposing positions tend to be rooted in a belief that suggests that children have to learn to crawl intellectually before they can walk or run.

In many ways, educational practices for literacy development, especially for low-achieving minority students, can be said to be in a transitional state. The literature is increasingly filled with examples of successful programs for these students and with models for change. In general, these models and approaches are socioculturally based, draw on students' out-of-school expertise and knowledge, facilitate active involvement and provide appropriate assisted performance on high-level, meaningful, and authentic activities (Cummins, 1989; Edelsky, Altwerger, & Flores, 1991; Moll, 1990; Tharp, 1989; Tharp & Gallimore, 1988). The most common instantiation of these approaches in schools is found in whole language programs.

In contrast, many existing school-based programs for low-achieving language minority students tend to emphasize low-level remedial approaches (Allington, 1991). Often, these rely on an extreme form of direct instruction based on mastery of discrete hierarchically ordered skills. In short, while the literature is moving in an increasingly holistic/experiential/meaning-oriented direction, traditional school practices continue to reflect a more reductionist orientation.

In general, a parallel situation is found with assessment: namely, practice is in a transitional state. Specifically, recent literature emphasizes literacy as a sociocultural, interactive, and multi-faceted phenomenon, yet assessment continues to rely on static, decontextualized, unidimensional, standardized tests (Shepard, 1991). As with the domain of reading and literacy, there appears to be a continuum of orientations to assessment, which can be represented by opposing poles. One perspective suggests that learning is represented by mastery of discrete abilities, which can be measured in a comparative fashion through formal, teacher-directed standardized tests and procedures. These procedures are most often used to rank students or to pinpoint specific deficits, which are presumed to reside within the student and which can then be remediated. As suggested by both Cummins (1989) and Poplin (1988a, 1988b), an opposing dimension views assessment as more of an informal, long-term monitoring process that provides an indication of student competence on various types of authentic activities and is used to guide instruction. Poplin termed this orientation a holistic/constructivist perspective, while Cummins labeled it an advocacy-oriented perspective. These same authors termed the opposing poles reductionistic and legitimization-oriented, respectively. As Mehan, Hertweck and Miehls (1986) and Cummins (1984) have suggested, the reductionistic/legitimization-oriented perspective is most clearly found in the practices of special education programs. Alternatively, the holistic/advocacy-oriented perspective would be more characteristically found in whole language programs. Clearly, these orientations parallel the continuum described earlier in relation to reading.

Bilingualism and Biliteracy

Although linguistic diversity is increasing significantly in public schools, there is considerable controversy over how best to treat this diversity (Crawford, 1988). In the popular literature, one extreme of the debate is found in the U.S. English organization and its supporters, while the other end of the spectrum is captured in the notion of bilingualism and bilingual education as "empowering" (Cummins, 1986). It is clear that the field of bilingualism is complex. A major issue at the center of the debate over bilingualism has to do with the effectiveness of bilingual education. Although there is good evidence that well conceived and well implemented bilingual programs are effective (Cummins, 1989; Krashen & Biber, 1988), there is still a great deal of debate and ambivalence regarding bilingual education from a socio-political perspective (Casanova, 1992; Halcon & de la Luz Reyes, 1992).

In spite of these debates, the specific issue for many schools is the degree to which students' language and culture are incorporated into the school

program. Cummins (1989) has identified two opposing dimensions in this regard. On one end of the continuum is what is termed an "additive" perspective, while at the other end is a "subtractive" perspective. Simply stated, an additive perspective views bilingualism and biculturalism as positive resources to be drawn upon in designing instructional environments. In contrast, a subtractive perspective views bilingualism and biculturalism as detrimental to the educational process. The literature on teacher beliefs suggests that individual beliefs and understandings in this area should have an important impact on classroom behavior and practices. Therefore, although the issue of assessment was the central focus of the present study, it was felt to be critical to examine this aspect of teacher beliefs given the characteristics of the students discussed by the teachers.

Summary

Clearly, the preceding review indicates that a sociocultural approach dominates the literature on effective teaching practices—especially in reading and its assessment—for language minority students. This same emphasis carries over into the area of assessment, including some important national initiatives. However, it is also clear that this emphasis represents a paradigmatic shift, or change in underlying belief systems, rather than simply a shift from one set of practices to another. The types of reform implied in the preceding review require significant shifts not only in practice, but in the supporting theoretical knowledge base or paradigm, including the beliefs and understandings of those who would ultimately be the end users, that is, teachers. To date, more attention has been given to the technical characteristics of the alternative forms of assessment than to those who would use them and the social contexts in which they operate. In the research that has explored teacher beliefs and understandings of classroom processes, attention to language minority students has been absent. It was the aim of the present study to begin to examine just this issue.

These were our specific research questions:

1. What are teachers' beliefs about assessment in the area of reading with Latino students?

2. Do these beliefs vary by professional training and affiliation?

3. Do these beliefs correspond with classroom practices?

METHOD

Subjects

All the teachers participating in this study taught in urban Southwest classrooms made up primarily of Latino language minority students. There were three groups of teachers within the sample, consisting of 18 teachers per group. One group was comprised of teachers with bilingual credentials who had successfully undergone the state-required credentialing provisions for teaching bilingual students. A second group of bilingual special education teachers were "waivered" bilingual teachers; that is, they taught in bilingual classrooms but were not fully credentialed as bilingual teachers.[2] Finally, a third group was comprised of bilingual special education teachers of learning disabled, language minority students. All teachers in this last group taught in pull-out special education classrooms known as the "resource specialist program," or RSP, in California. The differences in training among these groups allowed us to explore the suggestion that teachers' beliefs and knowledge base may be intricately related to specific professional disciplines (Rueda, Figueroa, & Ruiz, 1990).

All teachers who participated were teaching primarily Latino language minority students (at least 85% of the class) in the third- to fourth-grade age range. This age range was selected because many "early-exit" bilingual programs use this grade level as a point to begin transitioning students into all-English programs, and therefore assessment takes on added importance at this point in students' careers. In addition, by this grade students will have been ex-

posed to more complex literacy activities, and those with problems will have exhibited them by this time.

All teachers came from six urban Southern California school districts that serve large numbers of language minority students.

Measures

Interviews

A semi-structured interview protocol was constructed that was used to examine and probe beliefs about assessment. In designing this protocol, we first assumed that teachers' knowledge and beliefs can best be characterized as personal or tacit rather than propositional in form (Feiman-Nemser & Flooden, 1986). That is, personal knowledge is more likely stored and reported in the form of stories and incidents (Smith, Edelsky, Draper, Rottenberg, & Cherland, 1991). We further assumed that such personal knowledge is best ascertained through soliciting examples and stories from teachers and then inferring knowledge and beliefs from this case knowledge (Richardson, Anders, Tidwell & Lloyd, 1991; Smith & Shepard, 1988). Informal and clinical interviewing methods (McCracken, 1988; Mishler, 1986; Polkinghorne, 1988) are best suited to these principles about the nature of teacher beliefs and knowledge and the ways to elicit them. In this type of interviewing, the researcher starts with an agenda, or list of general topics to cover, as well as an opening statement and open-ended question designed to elicit the participants' perspectives without sensitizing the participants to any hypotheses of the researcher. The content, feeling, and work choice of the participants' initial response then become the structuring mechanisms for the next phase in the interview. As the interview progresses through mutual negotiation, the researchers' agenda is covered naturally. If not, in the later stages of the interview, more direct questioning can broach the remaining topics.

In this study, the interview agenda developed after an initial review of the literature, consultations with teachers and other specialists involved in assessment, and the overall focus of the project. The specific domains covered included assessment, literacy, bilingualism and biliteracy, and learning problems. The resulting interview agenda covered the following specific topics: teacher background factors, the nature of reading and how children learn to read, reading instruction, assessment of reading, student factors including language and learning characteristics, and the sociocultural context (class/school/community).

Survey of Teacher Beliefs and Practices

Although it was felt that paper-and-pencil surveys are an inadequate measure of beliefs when used in isolation, it was assumed that multiple measures of the same phenomenon increase the validity of the findings. Therefore, in addition to participating in an interview each teacher responded to a written survey of classroom assessment practices related to assessment derived in part from Wixson & Lipson (1991).[3]

Observations

Classroom observations were carried out in the classrooms of a selected number of teachers (four) from each group. Thus, a total of twelve teachers were selected for this aspect of the study. The intent of the observations was to get a general sense of the classroom context for each teacher and more of an interpretive context for interview and other data.

Procedures

Interview and Survey Development and Administration

The interview questions and format were developed after review of the literature and consultation with practicing bilingual teachers. All interview questions and procedures were pilot tested with teachers who were not included in the final sample. After the pilot testing, review sessions were held to discuss standardization of procedures.

The interviews were conducted by doctoral candidates in a language, literacy, and learning program, who had been bilingual teachers. At the conclusion of the interview, all participants were provided with a certificate for the purchase of children's Spanish literature.

Interviews lasted from about one hour to three hours and were conducted at the school sites. Throughout the interview process there was a focus on maintaining good rapport. At the end of each interview, teachers were asked to fill out the written survey. In most cases, this was completed on the spot, but in some cases these were collected at a later time because of time limitations.

Observations

Within each group of teachers, two teachers at opposing ends of the continuum with respect to assessment (to be described in more detail later) were selected for classroom observations based on preliminary analysis of the survey and interview data. These observations were conducted by the same doctoral students as above. In each case, the observers had been practicing teachers and were experienced with classroom observations for clinical supervision purposes.

Detailed field notes were collected following procedures based on Spradley (1979, 1980). These notes were descriptive and interpretive and aimed at building an understanding of instruction, curriculum, and assessment in each classroom. Visits to each classroom had a relatively narrow focus: to characterize the curriculum, the teaching methods and assessment practices specifically related to literacy (reading), the overall organization of the classroom, and the general contextual features that might help interpret other data.

During the observation periods, observers recorded as many concrete details as possible of what was taught, the methods by which it was taught, any activities or references to assessment or evaluation, and the allocation and sequence of events. Included with the notes were maps and charts of physical spaces. Worksheets, tests, and other materials were collected to supplement the notes. Finally, during free time, teachers were informally questioned about the activities that were observed and other aspects of classroom life related to assessment. The observations were of approximately half a day duration per teacher.

Data Analysis

Interview Data

All interviews were tape recorded, transcribed, coded,and analyzed. These transcriptions were first reviewed using Glaser and Strauss's (1967) and Strauss's (1987) constant comparative method to create categories in the domains that were tapped by the interviews: primarily assessment, bilingualism/biliteracy, and reading. A domain analysis (Spradley, 1980) was conducted on the coded material. Descriptive codes were used to categorize responses, and these codes eventually became the propositional summaries used to characterize the data. A coding system and simplified scale were thus developed for each of the three domains analyzed.

As an example of this process, the following codes were developed for the domain of assessment: nature of the information to be assessed; nature of the assessment procedures used; uses/purposes of assessment; person responsible for assessment; and nature of the process (interactive vs. non-interactive). Following the development of these codes, which were grounded in the transcripts, each transcript was segmented into chunks of text. These chunks of narrative were marked off whenever they corresponded to any of these categories. Finally, each segment of text was evaluated on a three-point scale. 0 represented the *legitimization-oriented/reductionistic* end of the continuum, and 2 represented the "advocacy-oriented/holistic" end. A score of 1 represented a teacher response that was either mixed or not strongly advocating for either end of the continuum. Finally, the ratings were averaged for each teacher over the entire interview, resulting in a score between 0 and 2. Since preliminary analysis suggested that few teachers could be characterized as pure types of any given orientation, this procedure had the advantage of showing where on the continuum the teacher fell. In addition, it permitted taking into account all of the relevant transcript data instead of only arbitrarily selected portions. Similar procedures were followed for the domains of bilingualism/biliteracy and for reading. Finally, the ratings in each of the three areas were compared both within groups and among groups of teachers.

Survey Data

Exploratory factor analysis on the survey was used to test the relationship among items. Factors were identified when their eigenvalues were at least 1.0 and when they yielded loadings of at least three items at a value of at least 0.35. The resulting factors from this exploratory analysis were then compared with the results from the interviews.

RESULTS

Interview Data

The mean group ratings for the three domains of assessment, reading, and bilingualism are found in Table 1. Each will be discussed in turn.

Assessment

The first dimension of the transcript data examined focused on assessment, specifically reading assessment. 0 indicated a view of assessment as a tool for the measurement or evaluation of discrete products of learning with minimal attention to context or other sociocultural features, and a focus on comparison, discrete scores, and classification. 2 indicated a view of assessment as a tool to document personal accomplishment or the learning process over a period of time with little emphasis on scores, comparison with others, and classification.

Although there was a significant amount of variance among individual teachers within each group, a clear trend was evident. The special education teachers exhibited views closest to a legitimization-oriented/reductionist perspective, followed by bilingual waivered teachers and then bilingual credentialed teachers. Interestingly, although the groups appeared to differ from each other, none of the groups was noticeably holistically oriented with respect to assessment.

Reading

The second dimension examined was reading. 0 indicated a view of reading emphasizing separate subsystems, the primacy of form over function, and the segmentation of learning in this area into decontextualized parts. In contrast, 2 indicated a view of reading emphasizing personal construction of meaning, function over form, integrated curriculum with an emphasis on authentic activities, use of students' background knowledge to develop lessons, and collaborative activities.

TABLE 1

Means and Standard Deviations for Ratings of Interviews on Assessment, Reading, and Bilingualism

	Group			
Dimension	**Bil. Cred.**	**Bil. Waivered**	**RSP**	**Total**
Assessment*	.839	.566	.253	.553
	(.507)	(.392)	(.308)	(.470)
Reading	.998	.847	.542	.796
	(.506)	(.424)	(.375)	(.471)
Bilingualism	1.102	.928	.629	.886
	(.574)	(.604)	(.526)	(.592)

* In each case, the possible range is from 0 to 2.

Although not as pronounced, the same pattern was found as with the domain of assessment. That is, the special education teachers were more closely oriented to a skills/transmission model of reading, while the other two groups expressed views which were more characteristic of a mixture between the two extremes. None of the three groups of teachers was closely aligned with an interactive/experiential view of reading, although there was significant variance within each group.

Bilingualism

The final domain probed in the interview was bilingualism. 0 indicated a view of bilingualism as largely a negative factor in school achievement and learning. 2 indicated a view of bilingualism as an asset to be built upon and fostered in the learning process.

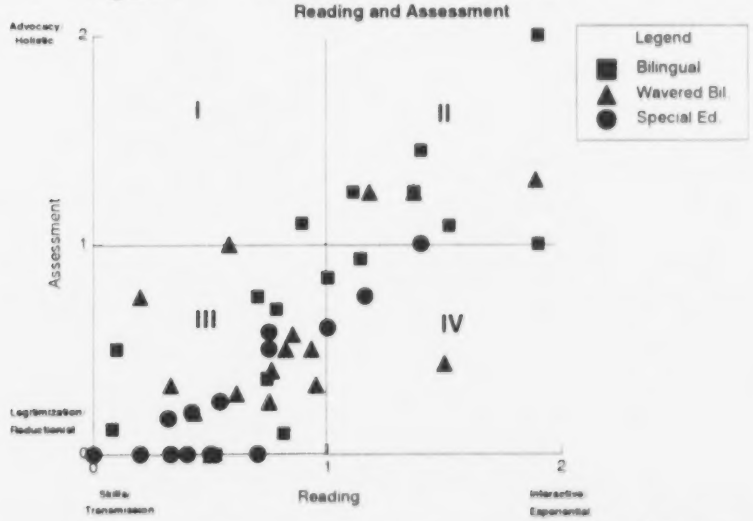
The data suggest that both the bilingual credentialed and waivered teachers were somewhat more oriented to an additive perspective on bilingualism and biliteracy, while the special education (RSP) teachers were somewhat more oriented to a subtractive perspective. However, no group, including the bilingual credentialed teachers, was closely aligned with an additive perspective on bilingualism.

The Relationship between Beliefs about Assessment and Beliefs about Reading

Separate scatter plots were created to see how beliefs about assessment were related to beliefs about reading and about bilingualism. (See figure 1.) First, the individual ratings of beliefs about assessment were plotted against those about reading for each teacher. This procedure created four quadrants, which represented the intersecting axes of these two sets of beliefs. Displayed in this fashion, the graph provided an indication of whether a high score in one dimension was accompanied by a high score on the other dimension. For example, was a legitimization-oriented/reductionist orientation to assessment associated with a skills/transmission orientation to reading? Similarly, was an advocacy/holistic orientation to assessment associated with an interactive/experiential orientation to reading? If the relationship was strong, a high score on one dimension would be related to a high score on the other, or a low score on one with a low score on the other, and the majority of cases would fall within Quadrants II and III.

Inspection of Figure 1 suggests that a large number of cases fell along a diagonal from Quadrant III (representing a low score on both dimensions) to Quadrant II (representing a high score on both dimensions) with only five cases falling completely outside of these two quadrants. This pattern sug-

Figure 1. Ratings of Teachers' Orientations to Reading and Assessment



gests a relationship did exist between beliefs on these dimensions. Also notable in Figure 1 is the location of the large number of cases in Quadrant III, suggesting beliefs along both dimensions were low. In addition to this visual display, a correlation coefficient was computed between ratings on assessment and on reading, resulting in a coefficient of .734 ($p < .0001$). This suggested a strong relationship between orientations on these two dimensions.

The Relationship between Beliefs about Assessment and Beliefs about Bilingualism

A similar procedure was followed in order to examine the relationship between beliefs about assessment and about bilingualism/biliteracy. The results of this procedure are found in Figure 2.

Unlike the previous results, the relationship between beliefs about assessment and bilingualism is less clear. Although a large number of cases fell within the expected Quadrants II and III (representing a high score on both dimensions or a low score on both dimensions), a significant number of cases fell within Quadrants I and IV as well. Cases that fell outside of Quadrants III and II suggested that for these individuals an inverse relationship existed, such that a low score on one dimension was associated with a high score on the other. For example, these outliers represented cases in which individuals expressed beliefs about bilingualism characterized as additive but beliefs about assessment characterized as legitimization-oriented/reductionistic, or the opposite. It appears that the relationship between these two dimensions of beliefs was not as strong as was the case with the previous two dimensions. This was verified by the significant but somewhat weaker correlation coefficient between orientations to assessment and bilingualism ($r = .527$, $p < .0001$).

The strength of the relationship among the various dimensions tapped by the interview varied among groups but appeared to be strongest for the special education teachers. Intercorrelation matrices with coefficients broken down by group are presented in Table 2.

Survey Data

Reading Instructional Practices

An exploratory factor analysis was performed on the 16 survey questions regarding teachers' reading instructional practices. The factor loadings for the various items are presented in Table 3.

There were three interpretable factors: Factor 1, named *Literature*, which reflected a literature-based curriculum; Factor 2, named *Student-Centered*, which reflected student-centered approaches;

Figure 2. Ratings of Teachers' Orientations to Bilingualism and Assessment

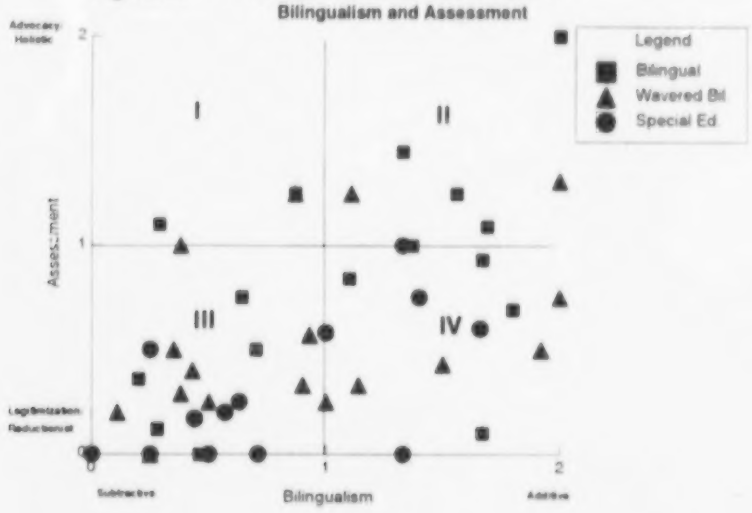


TABLE 2

Intercorrelation Matrices of Belief Domains from Interview Data Presented by Group

	Bilingualism	Reading
Bilingual Credentialed Teachers		
Bilingualism Reading		
Assessment	.37	.72**
Bilingualism		.55*
Bilingual Waivered Teachers		
Bilingualism Reading		
Assessment	.50*	.52*
Bilingualism		.42
RSP (Special Education) Teachers		
Bilingualism Reading		
Assessment	.66*	.90**
Bilingualism		.78**

* = p < .05
** = p < .001

TABLE 3

Factor Loadings from Factor Analysis of Teachers' Instructional Practices in Reading

Literature	Factor 1 Literature	Factor 2 Student-Centered	Factor 3 Skill-Based
Students have an opportunity to read a wide variety of fictional and nonfictional texts.	.822		
I always integrate reading across the curriculum.	.747		
Students engage in sustained, independent reading on a daily basis.	.682		
I use journal writing to develop comprehension and fluency in reading.	.670		
I supplement the basal reading program with literature books.	.431		
Students choose the books they will read for their reading lessons.		.701	
Students spend most of their reading time working in cooperative groups.		.632	
Students are grouped by interest not by ability.		.608	
I emphasize phonic analysis in teaching word recognition.		-.366	
I use basal readers as the core of my reading program.		.731	
I use workbooks to reinforce skills.		-.366	.639
I place students in ability groups for reading.		-.518	.598
I encourage students to use invented spelling in their writing.			-.506

and Factor 3, named *Skill-Based,* which reflected skill-based instruction. The first two factors appear to be related to the interactive/experiential perspective on literacy as described in the interview data, while the last factor appears to be closely related to the skills/transmission perspective.

Reading Assessment Practices

A second exploratory factor analysis was performed on the questions regarding reading assessment practices. The factor loadings for this analysis are presented in Table 4.

The results showed clear separation of the skills-based assessment factor (Factor 1), labeled *Test-Based,* from the holistic approach of assessment (Factor 2), labeled *Performance.* These closely corresponded with the legitimization-oriented/reductionist and the advocacy-oriented/holistic perspectives as described in the interview data.

Reading Instructional Materials

The third exploratory factor analysis, on different types of reading instruction materials, yielded four interpretable factors: Factor 1, named *Holistic,* which reflected use of integrated materials and approaches; Factor 2, named *Mixed,* which reflected a bottom-up orientation and usage of a variety of supplemental materials; and Factor 3, named *Reading Experience,* which reflected an emphasis on the actual process of reading through various materials. The results of the analysis are found in Table 5.

The means and standard deviations of all eight factors that emerged from the factor analysis of the survey are presented in Table 6.

A multivariate analysis of variance was used to examine the differences among bilingual, waiver, and RSP teachers on the eight factors in addition to scores derived from the interviews. The overall multivariate tests (Pillais, Hotellings, and Wilks) showed

TABLE 4

Factor Loadings from Factor Analysis of Teachers' Reading Assessment Practices

	Factor 1 Test-based	Factor 2 Performance
End of unit basal tests	.889	
District-developed skills tests	.737	
End of the book basal tests	.728	
Skills continua	.567	
Standardized tests	.526	
Teacher-developed skills tests	.521	
Discussion of texts		.980
Written reactions to reading		.433
Monitoring of oral reading		.366

TABLE 5

Factor Loadings from Factor Analysis of Teachers' Reading Instructional Materials

	Factor 1 Holistic	Factor 2 Mixed	Factor 3 Reading Experience
Reader's Theatre	.593		
Predictable Books	.585		
Phonics Workbook	-.571		
Dialogue Journals	.556		
SRA Reading Laboratory	-.496	.354	
Skills Exercises	-.483		
Other	-.455		
Process writing	.398		
Sustained Silent Reading	.390		
DLM Materials		.678	
Computer-based instruction		.632	
Big Books		.525	.358
Systems 80		.484	
Sight Word Activities		.466	
High interest materials		.403	
Public Library Books			.725
Basal Readers			.598
Writing Portfolios			.398
Children's Magazines			.397

TABLE 6

Means and Standard Deviations of Teacher Groups on Eight Factors Related to Reading Assessment, Practices, and Materials

	GROUP			
FACTOR	**Bilingual Credentialed**	**Bilingual Waivered**	**RSP**	**Total**
Literature	7.353[*] (3.040[**])	8.250 (2.864)	12.188 (3.526)	9.224 (3.743)
Student-Centered	14.706 (4.701)	19.111 (4.324)	18.333 (3.361)	17.434 (4.504)
Skill-Based	16.722 (2.421)	13.278 (3.908)	13.278 (3.675)	14.426 (3.714)
Test-Based	6.706 (1.649)	5.833 (1.917)	3.833 (2.706)	5.434 (2.430)
Performance	3.235 (1.562)	2.667 (1.572)	4.556 (1.423)	3.491 (1.694)
Holistic	3.824 (1.237)	2.833 (1.689)	3.333 (1.414)	3.321 (1.491)
Mixed	1.722 (1.487)	1.444 (1.886)	3.833 (1.978)	2.333 (2.065)
Reading Experience	2.556 (1.487)	2.611 (.608)	2.333 (.840)	2.500 (.795)

[*] Mean

[**] Standard Deviation

a significance level < .05. This suggested that there were significant group mean differences among three types of teachers (credentialed, waivered, or RSP) on at least one of the variables. The results of this analysis are presented in Table 7.

TABLE 7

Results of Multivariate Analysis of Variance Tests on Group Differences on Eight Reading-related Factors

Test name	Value	Approx. F	Hypoth. DF	Error DF	Sig. of F
Pillais	.86848	2.13220	22.00	70.00	.018
Hotellings	1.97537	2.52409	22.00	66.00	.006
Wilks	.28463	2.33167	22.00	68.00	.010

Subsequent univariate F-tests showed that the literature instructional factor, the student-centered instructional factor, the skills-based instructional factor, the test-based assessment factor, the performance assessment factor, the mixed instructional reading materials factor, and the assessment variable from the interview were significant at <.05 level. The results of these analyses are presented in Table 8.

Post-hoc One-Way Analyses

As a follow-up to this last analysis, seven one-way ANOVAs with Scheffe post-hoc tests were performed. The first one-way ANOVA showed that the mean score on the *literature* factor (related to instructional practices around reading) for the RSPs was significantly higher than the mean for the bilingual credentialed or waivered teachers. This suggests that RSP teachers engaged in fewer of these practices than the other two groups. The second one-way ANOVA suggested that the mean score in the *student-centered* instructional factor for the bilingual credentialed teachers was significantly lower than the mean score for both the waivered teachers and the RSPs. Since a high score represented the reading instructional practices less likely to be used by teachers, it was concluded that the bilingual credentialed teachers favored the student-centered approaches suggested by this factor, whereas the waivered and RSP teachers practiced more skill-driven reading instruction.

The next one-way ANOVAs on the instruction-related *skills-based* factor showed that the mean score for the bilingual credentialed teachers was significantly higher than that of the waivered or RSP teachers, suggesting they were less likely to engage in these types of practices.

TABLE 8

Results of Univariate Analysis of Variance Tests on Group Differences on Reading-Related Factors

Data Source	Domain	Variable Name	Hypoth. SS	Error SS	Hypoth. MS	Error MS	F	Sig. of F
Survey	inst.	Literature	194.069	449.038	97.034	10.205	9.508	.000
	inst.	Stud-Cent.	127.802	781.900	63.901	17.770	3.596	.036
	inst.	Skill-Based	132.051	529.608	66.026	12.037	5.485	.007
	asses.	Test-Based	68.782	211.771	34.391	4.813	7.146	.002
	asses.	Performance	25.017	106.600	12.509	2.428	5.163	.010
	mater.	Holistic	4.236	94.871	2.118	2.156	.982	.383
	mater.	Mixed	53.765	149.938	26.882	3.408	7.889	.001
	mater.	Rdg. Exp.	1.395	28.350	.697	.644	1.082	.348
Interv.	read.	Reading	1.074	8.515	.537	.194	2.775	.073
	biling.	Biling.	.989	14.400	.495	.328	1.511	.232
	asses.	Assessment	1.805	6.555	.902	.149	6.057	.005

The next two one-way ANOVAs, related to assessment practices using the variables *test-based* and *performance*, showed that the mean score for the RSP teachers was significantly different from those of the bilingual credentialed or waivered teachers.

Overall, these analyses suggested significant differences between the RSP teachers and the other two groups of teachers, while the bilingual credentialed and bilingual waivered teachers tended not to differ from each other. Further, these differences suggested that the latter two groups tended more toward an advocacy-oriented/holistic perspective on assessment, while the RSP teachers were more oriented toward a legitimization/reductionistic perspective.

The next analysis examined group differences with respect to the use of instructional materials using the factor, *mixed*. The analysis demonstrated that the RSP teachers scored significantly higher than the other two groups of teachers, suggesting that perhaps this group of teachers was more eclectic in their choice of instructional materials.

The final analysis explored group differences that emerged on the interview variable, *assessment*. The results indicated that the RSP teachers had a significantly lower mean score than the bilingual credentialed teachers, but this mean was not significantly different from that of the bilingual waivered teachers. This low score suggested that the RSP teachers were more closely aligned with an orientation to assessment characterized as legitimization/reductionist.

Classroom Observations

In order to illustrate the data collected during classroom observations, three teachers will be described here. Two teachers fell on opposite ends of the continuum of beliefs related to assessment, while one fell in the middle of the continuum. The first teacher was a bilingual credentialed teacher, LH, who was rated relatively high (1.92) on the interview with respect to assessment, that is, more oriented toward an advocacy/holistic perspective. The second teacher, XG, a special education teacher, fell in the middle of the continuum (1.09) on the basis of the interview. The third teacher, CM, is a bilingual waivered teacher who was rated relatively low (.50) on the dimension of assessment based on the interview, that is, more toward a legitimization/reductionistic perspective.

Observations from LH's Classroom: A Bilingual Credentialed Teacher

The following excerpt from field notes (observers' comments are bracketed) in LH's classroom provides a sense of the classroom environment and the teacher's instantiation of the beliefs expressed in the interview:

> The classroom was literally filled with evidence of the students' active engagement with holistic, authentic literacy activities. A large corner of the room was sectioned off for the library; this consisted of two bookshelves (four shelves in each) filled with books, most of which had Garfield's label on them [suggesting considerable institutional support for a literature-based program], plus 16 baskets filled with paperback books, 12 sets of 5-6 reading books, 6 dish drainers filled with student-authored texts (the dish drainers served to stand the books up for better visual display), and four long shelves with dictionaries, reference books, and magazines. There was a comfortable couch and two soft armchairs for students to relax in. One student was reading when I arrived, instead of participating in the class activity. I sat in the library to read some of the books, and students approached me to show me theirs, or to sit and read beside me.
>
> Students did not have their own desks in the classroom. They kept their journals stacked together in the library. The program was organized in such a way that there was no need for the students to have their "own" space for their "own" things; and they did not need their "own" copies of texts or other materials. They each had a folder at the front of the room for samples of their writing.
>
> Instead of student desks, there were several flat tables around the edge of the room, leaving a large open space for group activities. On one table stood five large pumpkins. The class had gone to the store that morning, weighed them and calculated their cost. Each cooperative team ("family") got to spend $3 on a pumpkin; they had to weigh them to find one for under that amount. Other activity centers in the room include: (1) a tape recorder with headphones and book/tapes, (2) a computer, (3) a container of calculators, and

(4) a bucket of other math manipulatives. [There was clear evidence of holistic, authentic math and science activities that are integrated thematically into the program, but it seemed that these aspects were less developed than the flourishing language arts/writing activities; or perhaps they were just less visible by their nature.]

The walls of the room were also "littered with print." These materials were about evenly divided between English and Spanish. (Note: in the field notes, approximately 20 different examples are listed).

[For the book-writing activities, there was clear evidence that the students engaged in a writing process. In examining students' work and talking with the children, I saw evidence of content changes as well as surface-level corrections before the final copy was typed (usually by the teacher at home; sometimes by the students).

The students seemed to have a sense of ownership to the classroom. Many of them came up to me, showing me things. There was a friendly, relaxed, noisy, bustling feel to the classroom. Students clearly had choice over the curriculum. In addition, students appeared to have a choice of language in classroom activities. Both Spanish and English were heard as students conversed among themselves, and the teacher used both languages in instruction as well as in more informal interactions with individual students.]

Students could sign up to be in the book group of their choice (to read sets of literature books with the teacher). After the group activity, the students scattered into their choice of literacy activities. Some went to the library to read, others to the listening center, others to work with the calculators, others to paint outside, others to write with the aide; a small group stayed with the teacher to read a book. At 11:50 they cleaned up (happily, noisily, easily, with a song to clean by), and then went out to lunch. They filtered back in on their own at around 12:20 and got out their journals. The teacher sat down with her own journal to write too.

[Assessment seems to be built into the program; the program design would suggest that the teacher has to have a good sense of where each student was at. The charts listing how many books each student has completed serve as one assessment measure. The sign-up lists for conferences and for book groups allow the teacher to monitor who needs to be more engaged in activities. The writing folders serve as portfolios (although it was unclear how or why pieces were chosen for them, or how they were used to monitor progress). The focus in the classroom was clearly on active engagement and production of materials, not on *evaluation* of work or of students at all. All of the students seemed highly motivated and very engaged; this motivation seems to flow out of the nature of the activities and the particular spirit of this teacher. However, the means by which the teacher ensures that all are engaged and progressing along their own development line is more obscure. It may depend on the qualities the teacher possesses—her ability to keep a holistic view on each child.]

Observations from XG's Classroom: A Special Education Teacher

The second set of excerpts from the classroom observations was from a teacher whose interview data suggested beliefs that included elements of both ends of the continuum related to assessment:

When I arrived, the class was taking state-mandated standardized tests. They had just finished one section. The children left independently to the bathroom and then returned for the next section. Individuals approached the teacher, who responded to them in a friendly manner and did not seem bothered by a certain degree of "disorder." One of the students gave him her journal to read; he read it and responded in writing with a content-based comment. XG explained to me that he tries to read three tables' journals every day and respond. [When I looked through some of the journals in the students' portfolios, there were large variations - a few had many teacher comments, and many had none.]

Mr. G then called for the class' attention, explaining to me that "It usually takes three calls to get their attention," and read the instructions for the next section. As the students took the test, Mr. G reminded them "Tienes que leer *todo*" ("You have to read it all"), and "just *read*." One student asked him about one question; he responded "No te puedo decir me hija" ("I can't tell you honey").

[In examining the student journals, I saw evidence that XG is attempting to move into more holistic, naturalistic responses to the students' writing, but I also found evidence of his "falling back" upon traditional, reductionistic, surface-level responses.] On one page of a student journal, one word was corrected for spelling, and XG wrote "Very nice, I like the way you wrote neatly and spelled all the words correctly. Keep up the good work. Use all the space available." On another page, however, he asked a question in response to the student's entry, and on another he made a brief comment "May the force be with you" - in response to the student's entry about Star Wars. The entries to the journals would suggest that each page was based on a teacher prompt.

Instructions to the class were on the board: 1) Journal, 2) Read - Day of the Dead, 3) color the pictures, 4) finish any other work, 5) practice

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handwriting, 6) read book, 7) write on the computer. Other things in the room: skeletons on the walls; Say No To Drugs pictures; Halloween drawings; student photos with inscriptions on gravestones; student work displayed on a bulletin board (math problems, definitions of words, 19 spelling words, story, ditto on ordering a story); computer with Microsoft Word; a few science experiments; calendar; one *small* shelf of library books.

[Analysis of journals, writing folders, and (especially) math work that was in the portfolios shows more clearly that XG is working from a traditional, reductionistic paradigm; although there is evidence that he is attempting to move away from this approach.] Math - mostly dittos and problems, some corrected or self-corrected, and judged (as 100%), or with comments such as "Perfect," "Great homework." Some with comments such as "It's too crowded," "I like your hard work; use all the paper," "You need to practice." Many other pages were uncorrected and with no comments - just practice.

One student's writing folder - 1) Page about "cuando cruzo la calle" ("when I cross the street)" - This was written one sentence at a time, as a list down the page. Teacher's comment - "Great! But you need to write better" (referring to handwriting); 2) book written by the student, apparently when working with Ms. V., who team teaches with XG; 3) another book written by the student. [The books were uncorrected; I saw no evidence of writing as a process, there were no drafts or evidence of progression, content changes, or final editing.]

Another student's folder - Only one piece: a story about "Mi primer dia en Kinder," ("My first day in Kindergarten"). Spelling was corrected in pencil. No other changes were made.

A third student's folder - 1) a four-page story in pencil, uncorrected; 2) a three-page story about the student; 3) a list of 20 sentences about "my family," e.g., "Mi familia es inteligente" ("My family is intelligent"); 4) Another list of "Mi familia es..." (10 sentences); 5) two pages of evaluation, on a school form; 6) three pictures of the student's family; 7) a xeroxed story; 8) four maps, colored in; 9) a copy of lines from a play; and 10) a page of spelling, each word written ten times.

[Portfolios varied greatly in the amount and type of work included. It was not clear how or why or by whom any pieces were selected. There were many pages of math problems. There was little evidence of writing process. Assessment is mostly based on "correctness" of responses, in both math and writing, but there is some move toward holistic work.]

Observations from CM's Classroom: A Bilingual Waivered Teacher

The final excerpts provide a glimpse of the classroom of a teacher who was rated relatively low on the dimension of assessment through the interview data.

> There were handwriting samples on the board. The teacher explained that she reads a story in English. Students then write about what they understood about it in Spanish. These serve as a check on *handwriting*. [This seems a rather odd measure of *handwriting* - the examples did not seem like students were focusing on handwriting. Did the teacher only say these measure "handwriting" because she doesn't know what else they measure?]
>
> **Personal dictionaries** - The teacher explained, "They write the word on one page in their booklet, and draw the picture. They write a sentence with it, and put the page number where they got it. And it works!" She explained that this way she "keeps control" and "it's (testing) all in one place."
>
> **Tapes** - Students listen daily to a tape in which CM has recorded 50 to 100 words from their reading stories of that week. Students write down the words. Teacher explained, "That tells me if they get the sounds." Students write the same list for 3 days, then the teacher checks it - "If I see lots of improvement, I write 'muy bien' ('very good')." A sample of one student's list included 2 long columns of words, 5 words were corrected for spelling in red.
>
> **Book Reports** - The teacher uses a sample form (in file). It is from a commercial set, xeroxed. It has blanks for student's name, title of report, and the following questions - ¿Cuando occurio el cuento? ¿Donde occurio el cuento? ¿Los personajes principales? ¿De que se trata el libro? ¿Que parte te gusto mas? ¿Por que? Also, students keep lists of the books they've written reports on. A chart on the board records how many books they've read.
>
> On the board are single words on fish shapes, single words on whale shapes, and a paragraph about Cristobal Colon. The teacher explained that these serve as "pre-reading tests, what they know about the subject. Then, later students write what they know after the unit, to measure progress." [I did not see posttest measures.]
>
> **Ramona Quimby "book"** - Each student had copies of xeroxed pages of a "book" with pictures and then blank lines on each page (sample in file). The students' task is to write about the story and color the pictures. They get more points if they "add" their own ideas. The

teacher uses this to see how they "follow directions." When the book is complete, the parents score it, three friends score it, and the aide scores it, for a total number of points. The teacher explains "Some of them (peers) are so critical...I might not notice a mispelled word, but they will."

Indian designs - Students were drawing "Indian" designs. One student drew lots of detail. The teacher said, "¡No tiene color!" ("It has no color!") "¡Dale color!" ("Give it color!") The student looked unthrilled. The teacher said, "Despues me tienes que escribir la historia" ("Afterwards, you have to write me the story").

On the board are words for alphabetical order. There are math pages listed to do also. In addition, there are 5 vocabulary words on the chalkboard.

Reading test - Students took a reading test today (sample in file). It is a commercial test, from Macmillan Pub. Co. and tests in standardized format the following: word recognition, decoding and phonics skills, comprehension and vocabulary, and cloze comprehension. It is presented in multiple choice format. The teacher explained, "Tomorrow other students will correct it and grade it. That tests comprehension and everything."

[The class appears to have an emphasis on following directions, completing work, doing "more", keeping busy, and *producing*.] The teacher explains, "I make them work."

The teacher maintains a record for each student with checks for their completed work, grade level, etc. She emphasized that she does everything with art. [Yet I saw lots of dittos, prefabricated stuff, and just drawings, not other art forms. It's hard to tell what this teacher thinks she's measuring, but she does maintain lots of records. The categories appear to be a bit confused, i.e., whether some things measure comprehension, or vocabulary, or handwriting, or "creativity."]

It is clear that there are significant differences among these classrooms. In general, these differences appear to correspond to the beliefs expressed by each teacher in the teacher interview. For example, the teacher who scored halfway between the two opposing poles of the continuum clearly shows evidence of trying to incorporate a more holistic approach to assessment such as use of portfolios. However, careful examination of the contents of those portfolios and the teacher's evaluative comments suggest that he is still operating from a reductionistic framework.

It is also evident that assessment is not precisely "located" in these classrooms. That is, even given the differences in style among these teachers, assessment is dispersed through a number of activities and formats, ranging from standardized tests to simple, ongoing, informal observation. Moreover, it appears difficult to separate assessment from the curriculum and the classroom organization. However, it is the pattern of activities in each class that differentiates these classrooms, not so much the individual activity of assessment, but how and why it is used and how it fits within the teacher's overall view of the curriculum and its organization.

DISCUSSION AND IMPLICATIONS

There are two general findings that seem to stand out in the data. First, there was much variance in teachers' assessment beliefs and practices, both within and among groups. However, in general there is a discrepancy between the beliefs of the teachers in the study and those which underlie many of the new educational initiatives in assessment and instruction. Second, the RSP (special education) teachers appeared to be different in their beliefs from the other two groups in a direction even further removed from these recent developments.

The variance in teacher beliefs and practices seemed to occur at two levels: within group and within individuals. Inspection of the data suggests that within each group there was heterogeneity regarding beliefs about assessment, as well as about reading and literacy. However, it is also true that there appeared to be few "pure" cases where the beliefs and practices of individual teachers were entirely consistent. This inconsistency was evident in the observations of XG's classroom, where innovative practices are in the process of being incorporated into classroom activities, yet often in an inappropriate way. For example, dialogue journals are used with students, but teacher comments reflect concern over spelling and form. In a similar fashion,

portfolios are being used, but often contain worksheets or spelling lists.

This variance was also found in some areas where it might not be expected. For example, it might be hypothesized that bilingual credentialed teachers (and to a lesser degree, waivered teachers), would be overwhelmingly at the *additive/supportive* end of the continuum with respect to bilingualism and biliteracy. However, the results did not support this, and in fact suggested considerable variance along this dimension. The reasons for this finding are not clear from the present study, but are an area which deserves further investigation.

Since classrooms are complex activity settings, it can be hypothesized that at least part of this variance in beliefs and practices is due to what Mehan et al. (1986) termed "institutional constraints." As Clark and Peterson (1986) have suggested,

> Teachers' beliefs about reading represent a flexible and complex relationship between teachers' implicit theories and their classroom behavior .... Constraints on teacher behavior such as mandated curriculum materials, resources, time available, habits, and student abilities may interpose between theory and action and account for observed discrepancies. (p. 289)

The fact that there is a discrepancy between teacher beliefs on the whole and current educational initiatives is especially interesting given the districts from which these teachers came. In each case, these districts were considered progressive in terms of their support for more holistic, advocacy-oriented, experiential types of curriculum and assessment activities. Although the budgetary shortages and their effects on inservice training and consultation cannot be discounted, it cannot be said that there had been no previous support for new educational initiatives at the district level.

Especially notable in these findings is the marked tendency of the special education teachers to embrace beliefs and practices that are highly divergent from the direction of recent educational reforms and initiatives. It should be noted that students in the RSP (pull-out) classrooms are normally considered the least impaired of all special education students. Moreover, there are many from both within and outside of the special education field who have argued that these students cannot be reliably and validly distinguished from other at-risk and low-achieving (e.g., Chapter 1) students (Ysseldyke, Algozzine, Shinn, & McGue, 1982). The most probable hypothesis for this finding is that professional training programs continue to emphasize a pseudo-medical orientation, which is reflected in remedial types of practices and beliefs. For example, in an earlier study, Rueda, Ruiz, & Boothroyd (1992) found special education teachers were likely to attribute learning-disabled students' learning problems to pseudo-medical causes such as visual-motor processing problems and then to act on remediating these presumed deficits. In contrast, the special education aides were much more likely to attribute learning problems to families' economic problems, marital disputes, and other more socioculturally-based factors. Although there is some movement with respect to aligning the field of special education with the larger educational reform movement (see, e.g., Ruiz, 1989), it appears that there is a significant gap remaining.

Implications

The major implication of this study is focused on the issue of educational reform. It is clear that there is a gap between the belief systems of many of the teachers in this study and many recent instructional and assessment initiatives such as those found in the New Standards project at the national level or the California Language Arts Framework at the state level. Clearly, many of these new initiatives involve more than a shift in practices; they also involve the adoption of a fundamentally different paradigmatic belief system. Just as clearly, successful implementation of these new initiatives must give clearer attention to teachers' existing belief systems and understandings. Yet changing underlying paradigmatic belief systems is neither simple nor short-term, as indicated earlier. However, there are many studies supporting the idea that if teachers are given the opportunity to reflect on their teaching practices, they

not only get better at reflection but they also often change as well (Beyer, 1984; Bullough, 1989; Clift, Houston, & Pugach, 1990; Feiman-Nemser & Buchmann, 1986; Smyth, 1989; Tabachnick & Zeichner, 1984). This implies that a value system must be in place that supports these types of activities. Moreover, the opportunities (and resources to support those opportunities) must be provided as part of restructuring efforts to encourage meaningful change.

Interestingly, the literature suggests that beliefs are unlikely to be replaced unless they prove to be inadequate or otherwise unsatisfactory, and this is unlikely to happen unless these beliefs are challenged and they cannot be assimilated into the existing belief system (Posner, Strike, Hewson, & Gertzog, 1982). Pajares (1992) has suggested that a number of conditions must exist before anomalies in belief systems are uncomfortable enough to accommodate the conflicting information. First, one must understand that the new information represents an anomaly. Second, one must believe that the information should be reconciled with existing beliefs. Third, one must want to reduce the inconsistencies among the beliefs. Finally, efforts at assimilation must be perceived as unsuccessful. As Pajares (1992) points out, however, in practice, belief systems are seldom challenged by anomalies since people (teachers) are generally unaware of these anomalies.

Staff development and school-based training programs are often criticized as notoriously unsuccessful in bringing about attitudinal changes in teachers. It may be that these efforts approach the problem in a reverse fashion. There is some evidence that it is more profitable to expend effort in changing behavior **before** attempting to change beliefs or attitudes. Guskey (1986) found that when teachers were encouraged to engage in innovative practices and when they found them successful in boosting achievement, significant attitudinal change was noted. This same change is not seen, however, when teachers do not use the innovations in the first place, or if they use them but detect no improvement in their students.

CONCLUSION

A fundamental assumption of this study was that it is at the level of teachers' mental models that assessment activities can be most profitably studied and understood in the face of significantly changing paradigms. It is clear that the conceptualization of assessment in general and of the assessment of literacy in particular is currently undergoing radical changes. Although the current emphasis on literacy instruction and its assessment encompasses radical changes, efforts to bring about these far-reaching changes in the classroom have not been overwhelmingly successful. It is proposed that this change cannot be realized by simply introducing and exposing teachers to new procedures or assessment technology. Successful implementation of current advances in knowledge can only derive from fundamental investigation and changes in the mental models that drive teachers' curriculum enactment.

NOTES

[1] The focus on reading in this study belies our assumption that reading cannot be meaningfully separated from the larger phenomenon known as literacy. Consistent with the sociocultural foundations of our work, we view literacy in a framework that emphasizes a dynamic, process-oriented, contextually defined approach to education in general and to literacy in particular. Within this orientation, literacy and education are viewed as social and cultural practices and actions that vary across cultures, communities, and contexts even within the same setting (Heap, 1989; Hiebert, 1991; Santa Barbara Classroom Discourse Group, 1992; Walsh, 1991). Moreover, there are multiple literacies rather than a single literacy, and a given individual may be literate in multiple ways (Barton, 1991; Gee, 1991; Heath, 1983; Robinson, 1987). Seen in this light, then, all literacy does not occur in school settings, and traditional reading and writing are not the only activities that count as literate activity (Bloom & Green, 1992).

[2] In California, these teachers are known as "waivered" teachers. Because of the shortage of bilingual credentialed teachers, there are provisions within the state for teachers to apply for a waiver, which is a promise to complete the bilingual credential requirements within a certain period of time.

[3] The interview protocol, written survey questions, and coding schemes used in the data analysis are available from the author on request.

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